

DIFFERENTIAL CRYSTAL OSCILLATOR

5 ABSTRACT OF THE DISCLOSURE

A periodic signal generation circuit includes a differential crystal oscillator suitable for integration on a semiconductor substrate. The oscillator utilizes an external crystal as a resonator. The circuit is designed such that differential sinusoidal signals are present on the resonator leads to provide superior noise rejection of interfering signals. Differential signal transmission is maintained throughout the oscillator to reject noise generated by other circuitry that may be present on the substrate. Noise radiated out from the oscillator through the power supply, substrate, bond wires and pads is reduced due to the generation of differential signals of controlled sinusoidal amplitude and low harmonic content. The oscillator produces low phase noise so that the oscillator may be used in applications, such as TV receivers, that are sensitive to distortion. The circuit is a square wave that has low jitter, thus reducing jitter produced in digital circuits that would utilize this square wave clock signal.

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